

# Seasonal Weather Brief (Winter Hazards)

OL-A, 18th Weather  
Squadron

Updated 30 Jan 03

# Overview

- Davison Army Airfield Climo
- Weather Warnings/Advisories
- Winter Weather Patterns
- Precipitation Types
- Seasonal Unique Aviation Hazards
- General Weather Information
- Online Flight Weather briefing Requests
- Space Weather Products

# DAAF Climatology

	NOV	DEC	JAN	FEB	MAR	
• EXTRM MAX			85	77	74	76 88
• AVG MAX	58		46	42	45	55
• AVG MIN	37		28	24	27	34
• EXTRM MIN			15	-4	-10	-8 -2
• AVG PRECIP			3.26	3.44	2.93	2.87 3.81
• AVG SNOWFALL	0.9			3.4	5.8	6.7 3.6
• MAX SNOWFALL				10.8	24.8	35.0 24.3 26.2
• MAX 24HR SNFL				10.8	12.6	18.7 18.2 12.8
• # DAYS < 33 F	11		21	25	21	14

# Davison Wx Watches

(Winter Time)

- Surface Wind GTE 50 knots (4 hour DLT)
- Freezing Precipitation (4 hour DLT)
- Heavy Snowfall (GTE 2 inches in 12 hours, 4 hour DLT)

# Davison Wx Warnings

(Winter Time)

- Heavy Snowfall ( $> 2$  inches in 12 hours)
- Freezing Precipitation (Drizzle or Rain)
- Surface Wind (35 - 50 knots)
- Surface Wind ( $> 50$  knots)
- Thunderstorms (average 1 per month)

# Davison Wx Advisories

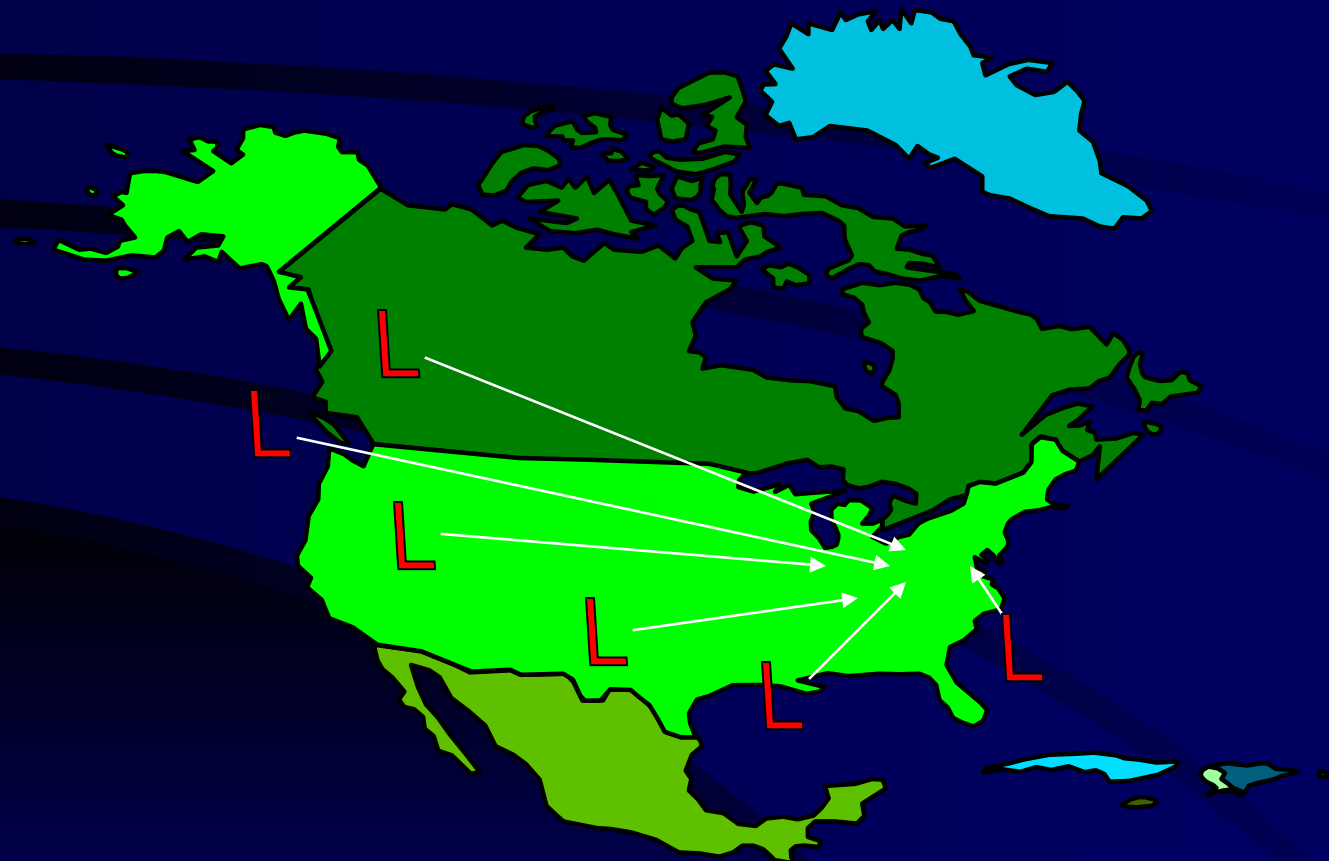
## (Winter Time)

- Wind Chill (26F or less)
- Gust Spread (15 knots or greater)
- Crosswind (21 knots or greater)
- Surface Winds (30 knots or greater)
- (LFA) ICING (Below 10,000 feet)
- (LFA) LGT-MDT (or greater) below 10,000feet
- (LFA) Thunderstorms

Winter weather is signaled by the development of the Icelandic Low which extends into eastern Canada. The Bermuda High retreats to the southeast and the Canadian High pressure takes a more southerly track, often dipping into the Continental US. Storm tracks migrate to the south and cold frontal passages become more numerous. The prevailing winds at the surface are determined by the frequency and intensity of anticyclones and cyclones which persist or move over the area. The domination of continental polar highs over North America bring a high percentage of cold northwesterly winds to the area. The coldest weather occurs in late January and early February. The strongest winds are experienced in late winter and early spring, generally after a cold frontal passage when the low pressure off the New England coast intensifies. Frontal passages during winter occur every 3 to 5 days. Behind the cold front, continental polar air is characterized by excellent flying conditions, for ceilings and visibility, but due to conditional instability and the gusty surface winds, turbulent conditions exist. The incidence of snowfall progressively increases from late November through the winter with the peak snowfall month in February. The heaviest occurrence of snowfall is associated with lows that form in the Gulf of Mexico or in the Gulf Coast states and move north-northeasterly along the Atlantic coast. Moisture is advected in from the Gulf Stream and spreads low ceilings, poor visibilities, and widespread precipitation throughout the area. The middle Atlantic coast region is often caught in the transition zone

# Winter Weather Patterns

(Most common characteristic)



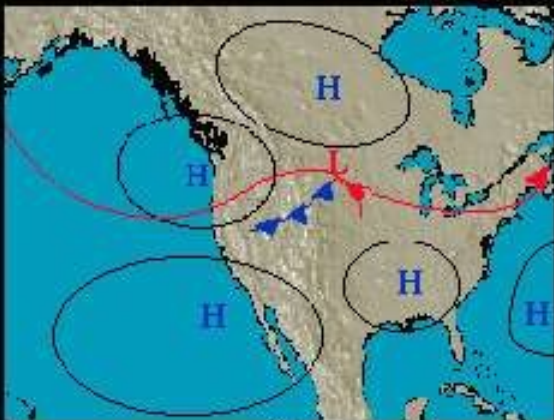




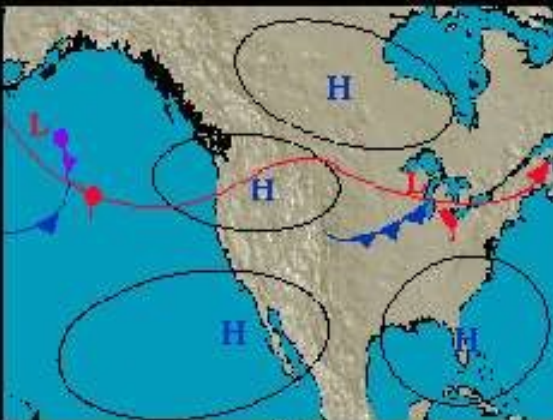
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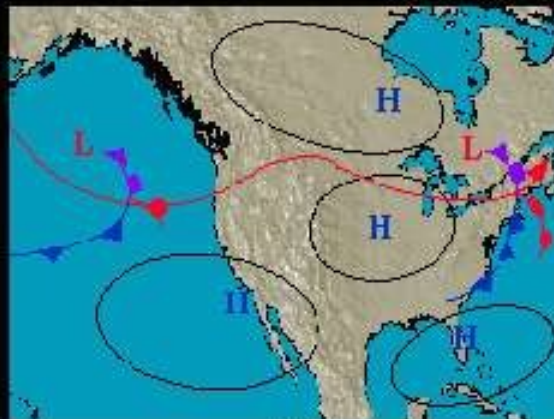
npac2.bmp



npac3.bmp



npac4.bmp



npac5.bmp

*North pacific Low*



alberm1.bmp



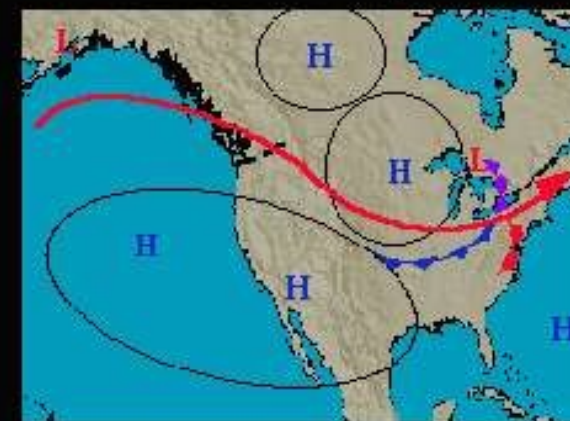
alberm2.bmp



alberm3.bmp



alberm4.bmp



alberm5.bmp



alberm6.bmp

*Alberta Low  
(Clipper)*

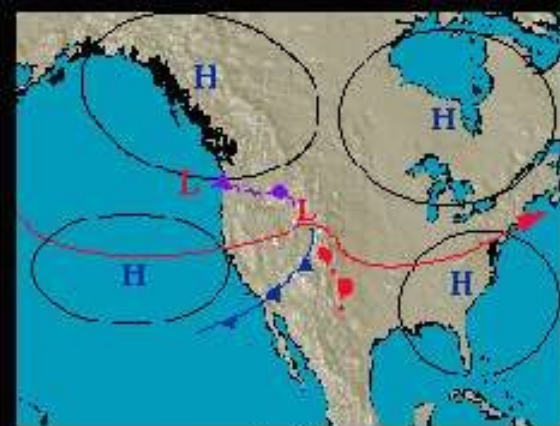




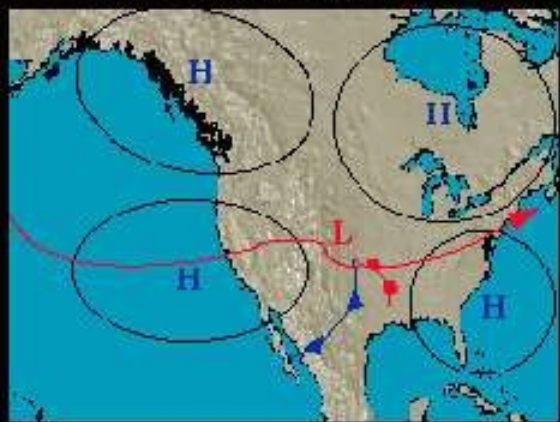
nrocky1.bmp



nrocky2.bmp



nrocky3.bmp



nrocky4.bmp



nrocky5.bmp



nrocky6.bmp



nrocky7.bmp

*Northern Rocky Mountain Low*



colo1.bmp



colo2.bmp



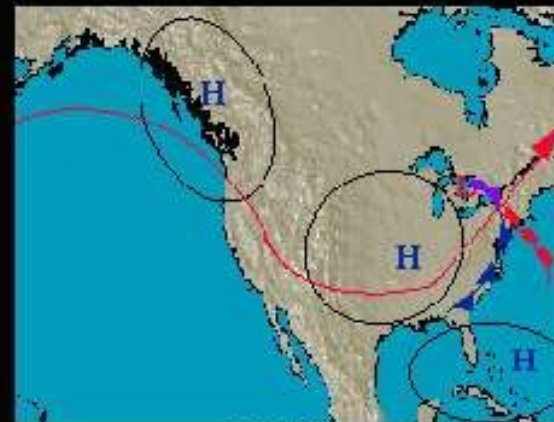
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colo4.bmp



colo5.bmp



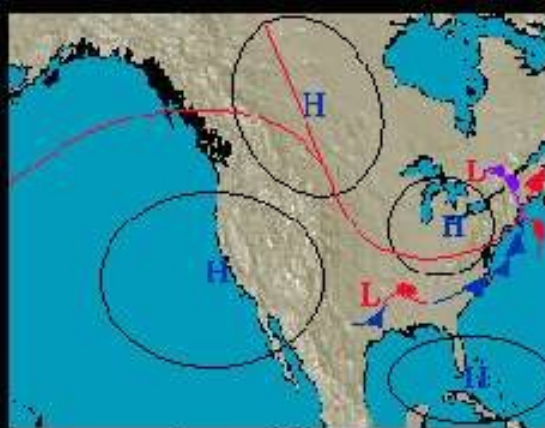
colo6.bmp

*Colorado Low*





texas1.bmp



texas2.bmp



texas3.bmp



texas4.bmp

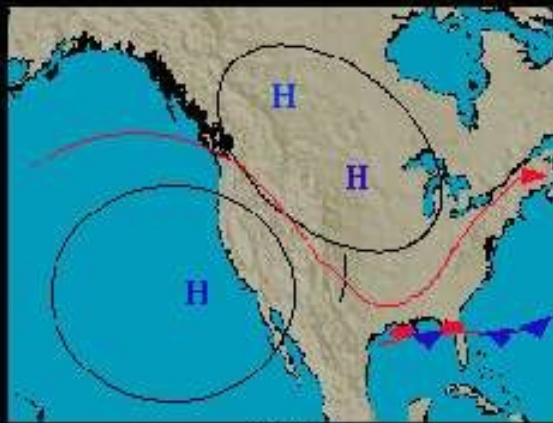


texas5.bmp

*Texas Low*



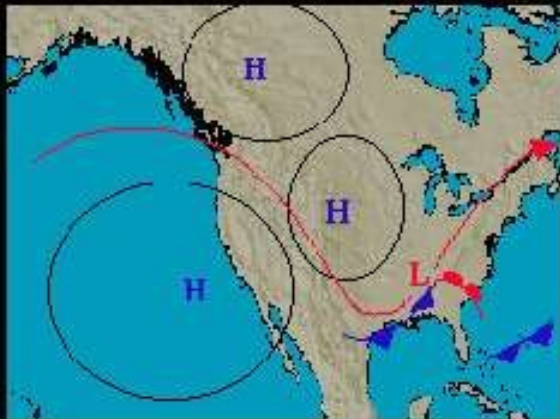
wgulf1.bmp



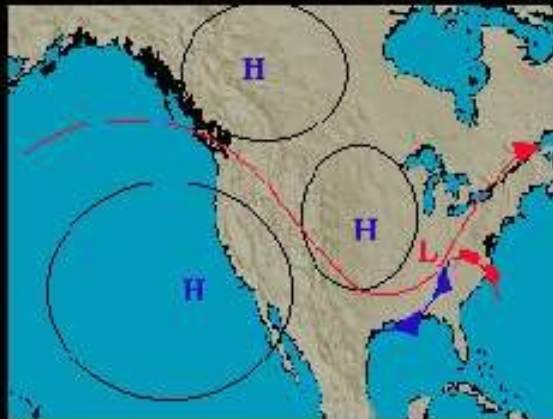
wgulf2.bmp



wgulf3.bmp



wgulf4.bmp



wgulf5.bmp



wgulf6.bmp



wgulf7.bmp

*West Gulf Low*





egulf1.bmp



egulf2.bmp



egulf3.bmp



egulf4.bmp



egulf5.bmp

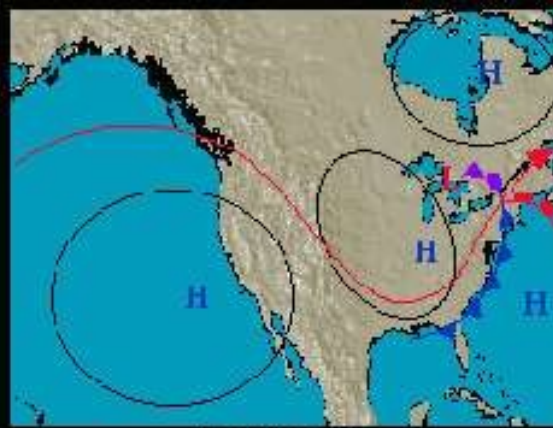


egulf6.bmp

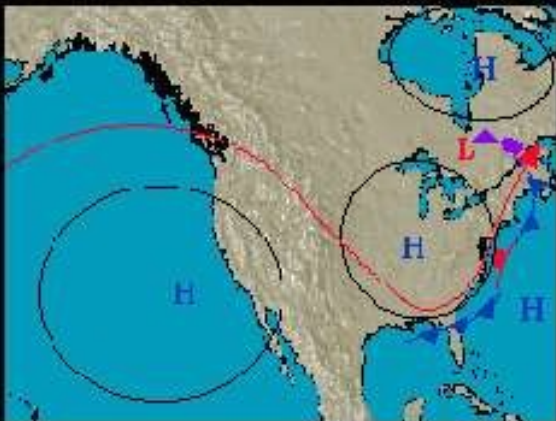
*East Gulf Low*



hatt1.bmp



hatt2.bmp



hatt3.bmp



hatt4.bmp



hatt5.bmp



hatt6.bmp

*Hatteras Low  
(S. Atlantic Low)*



# Winter Precipitation Types

- Rain - SFC  $> 40^{\circ}\text{F}$ , Warm Air Aloft
- MIXED - SFC  $35\text{-}40^{\circ}\text{F}$ , Cold Aloft
- SNOW - SFC  $< 35^{\circ}\text{F}$ , Cold Aloft
- FREEZING RAIN - SFC  $< 33^{\circ}\text{F}$ , Warm Aloft

# Seasonal Unique Hazards

- Turbulence
  - Definitions
  - Types
  - Effects on aircraft (Fixed)

# Seasonal Unique Hazards

- Turbulence

Definition

IRREGULAR MOVEMENTS OF AIR IN THE ATMOSPHERE

- Low Level Wind Shear

Wind shear is a change in wind direction, wind speed, or both, along a given direction in space. The strongest wind shears are associated with abrupt changes in wind direction and/or speed over a short distance.

Low

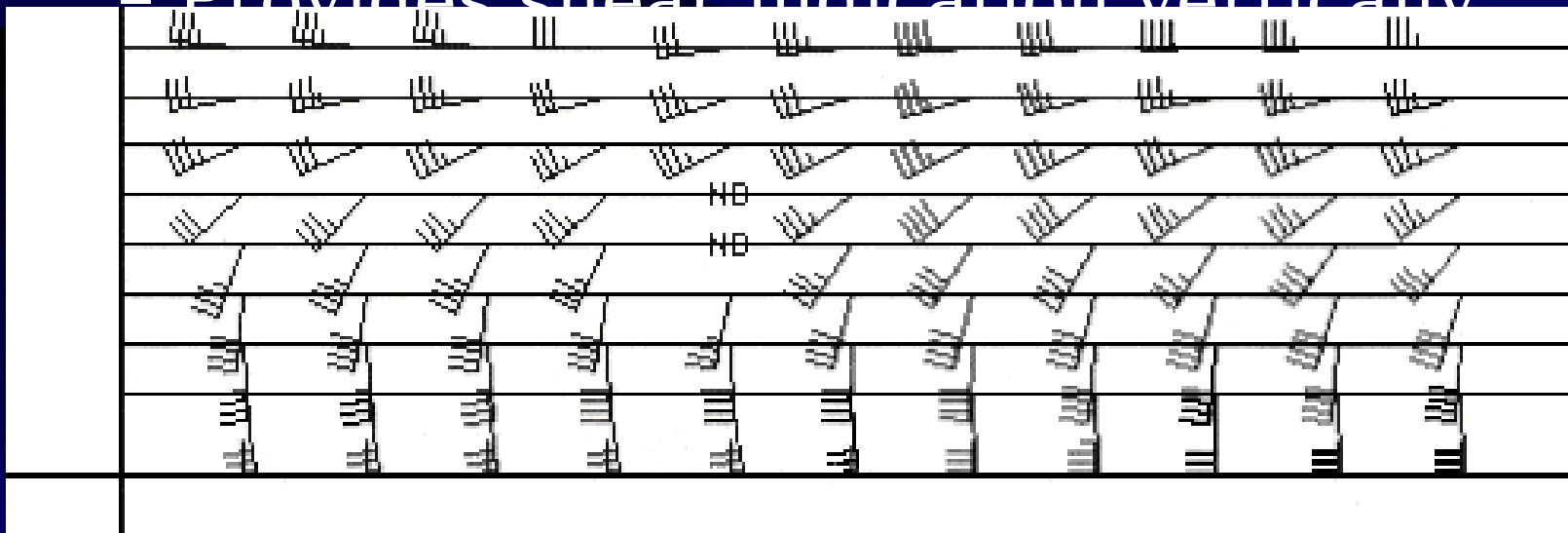
level wind shear is particularly hazardous to aviation operations. It occurs so close to the surface that pilots often do not have enough time to

compensate for its effects. Wind shear is often associated with fronts, inversions, and thunderstorms

# Seasonal Unique Hazards

## (Turbulence)

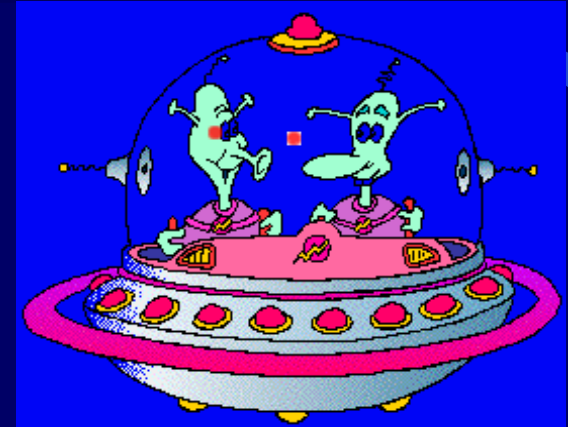
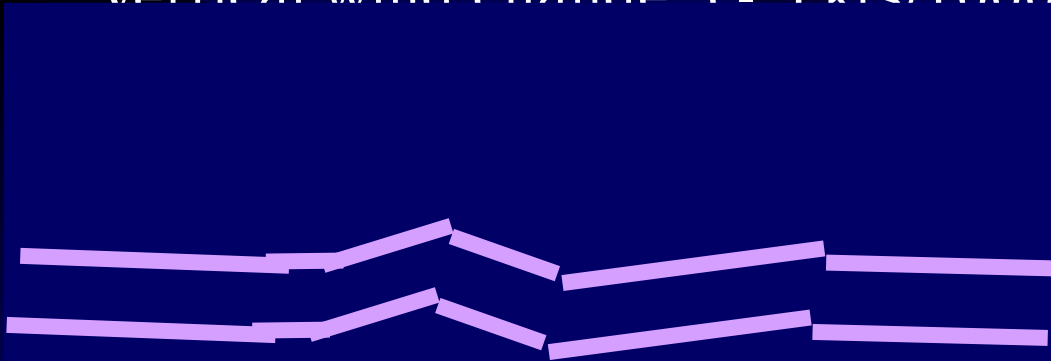
- VAD Wind Profile
  - Useful in keeping track of significant wind speed and direction change near the radar
  - Provides shear indication vertically



# Seasonal Unique Hazards

## (Turbulence)

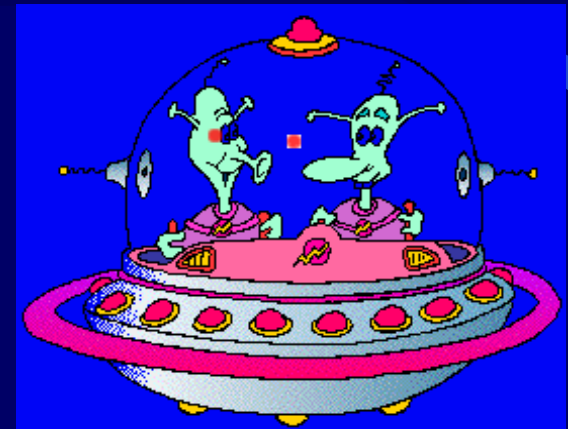
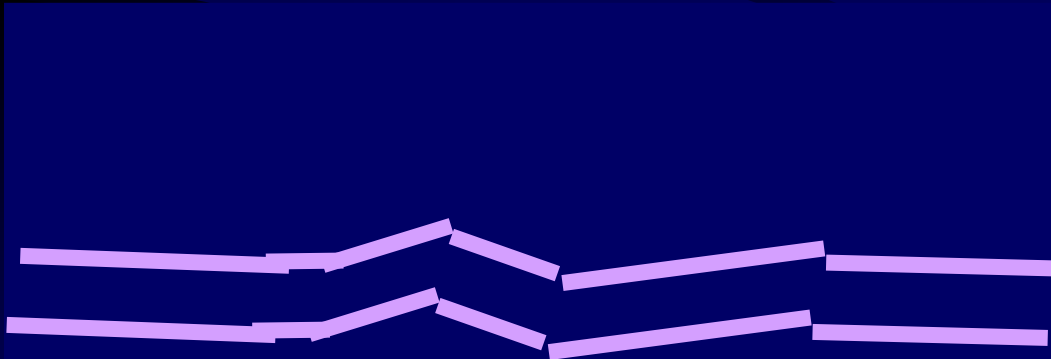
- Light Turbulence
  - Small changes in the aircraft attitude and/or altitude
  - Small variations in air speed of 5 to 14 knots
  - Vertical gust velocity is 5 to 19 feet per second
  - Horizontal wind change <25 kts/90 miles
  - Vertical wind change 3 - 5 kts/1000'



# Seasonal Unique Hazards

## (Turbulence)

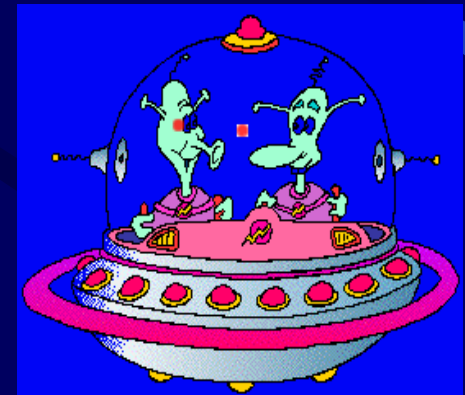
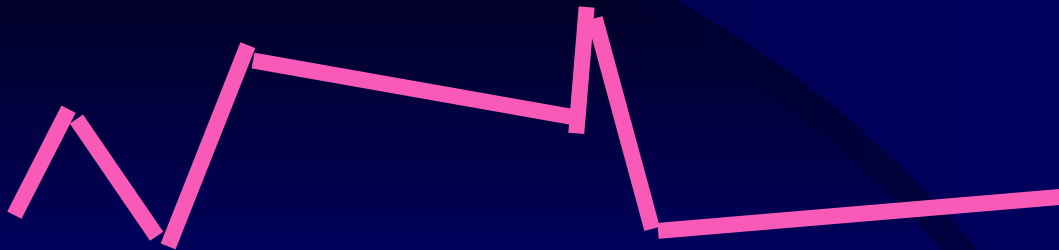
- Moderate Turbulence
  - Moderate changes in the aircraft attitude and/or altitude
  - Small variations in air speed of 15 to 24 knots
  - Vertical gust velocity is 20 to 30 feet per second
  - Horizontal wind change 25 - 49 kts/90mi
  - Vertical wind change 6 - 9 kts/1000'



# Seasonal Unique Hazards

## (Turbulence)

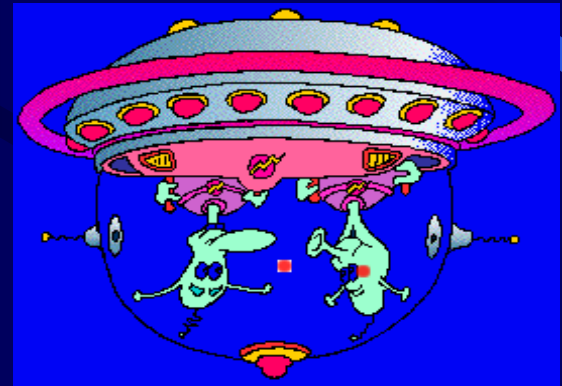
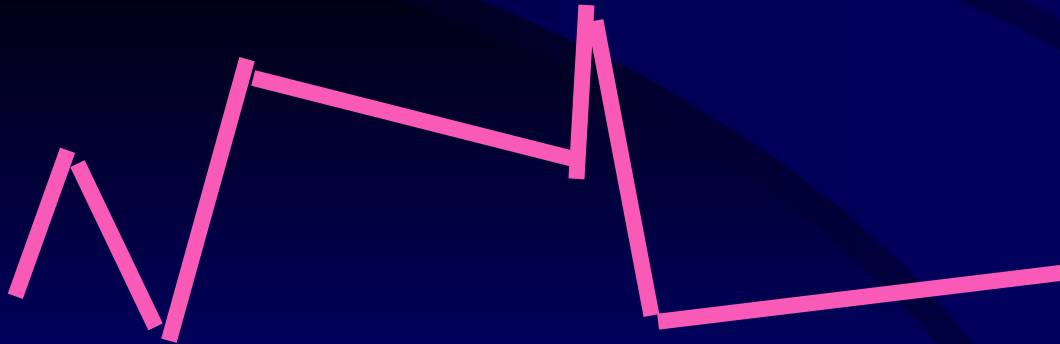
- Severe Turbulence
  - Abrupt changes in attitude and/or altitude, Aircraft may be out of control for short periods of time
  - Large variations in air speed  $\geq 25$  knots
  - Vertical gust velocity is 36-49 feet per second
  - Horizontal wind change 50 - 89 kts/90mi
  - Vertical wind change 10 -15 kts/1000'



# Seasonal Unique Hazards

## (Turbulence)

- Extreme Turbulence
  - Aircraft is tossed violently about and is practically impossible to control
  - Structural damage possible
  - Large variations in air speed  $\geq 25$  knots
  - Vertical gust velocity is  $\geq 50$  feet per second
  - Horizontal wind change  $>90$  kts/90nm
  - Vertical wind change  $>15$  kts/1000'





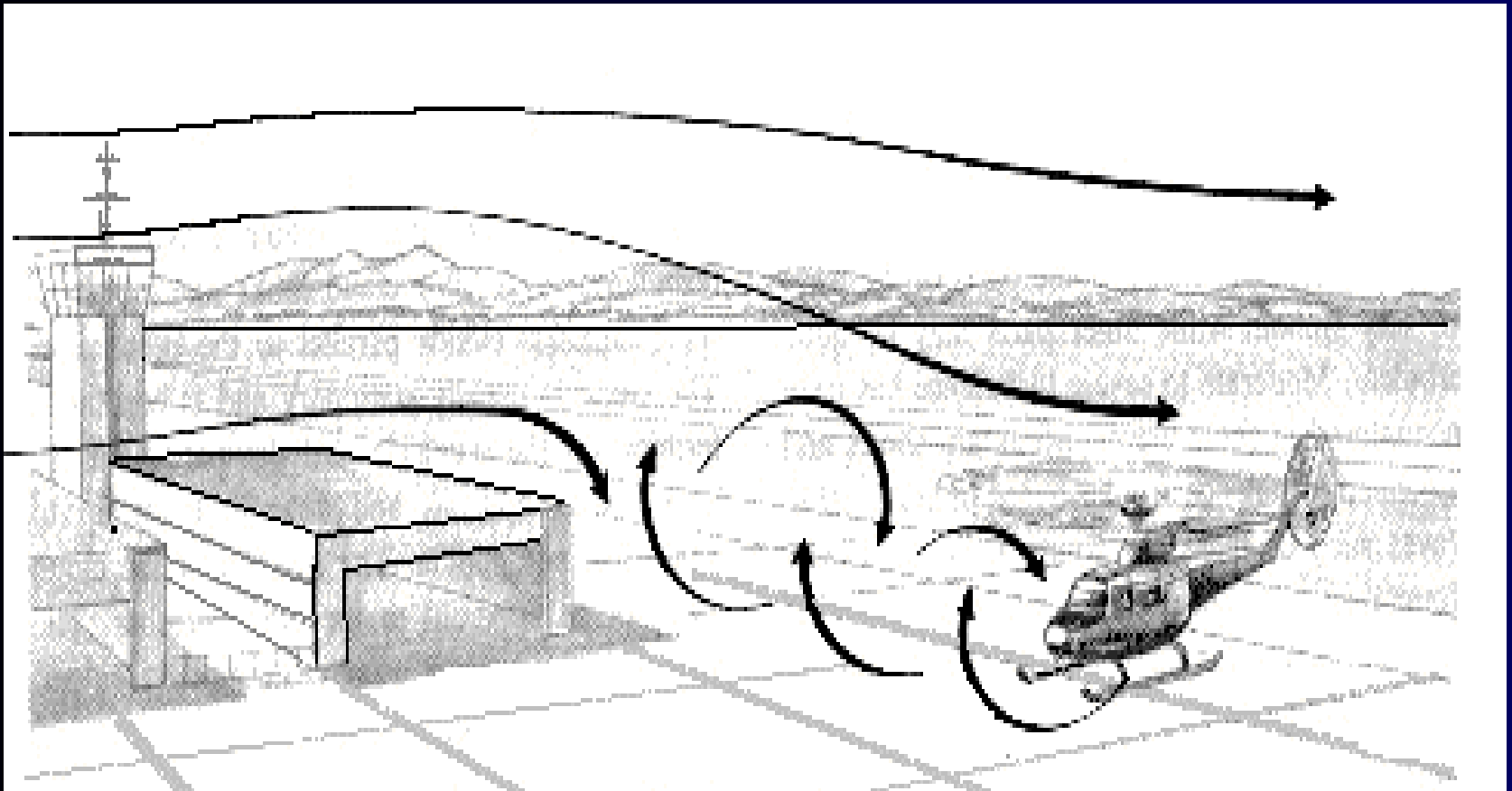
# Seasonal Unique Hazards

## (Turbulence)

- Turbulence Categories
  - Convective or Thermal
    - Due primarily to surface heating
  - Mechanical (Most common in Winter for LFA)
    - Mechanical turbulence is caused by horizontal and vertical wind shear and is the result of pressure gradient differences, terrain obstructions, or frontal zone shear. There are three types of mechanical turbulence: Clear Air Turbulence (CAT), Mountain Wave (MV), and Wake Turbulence.

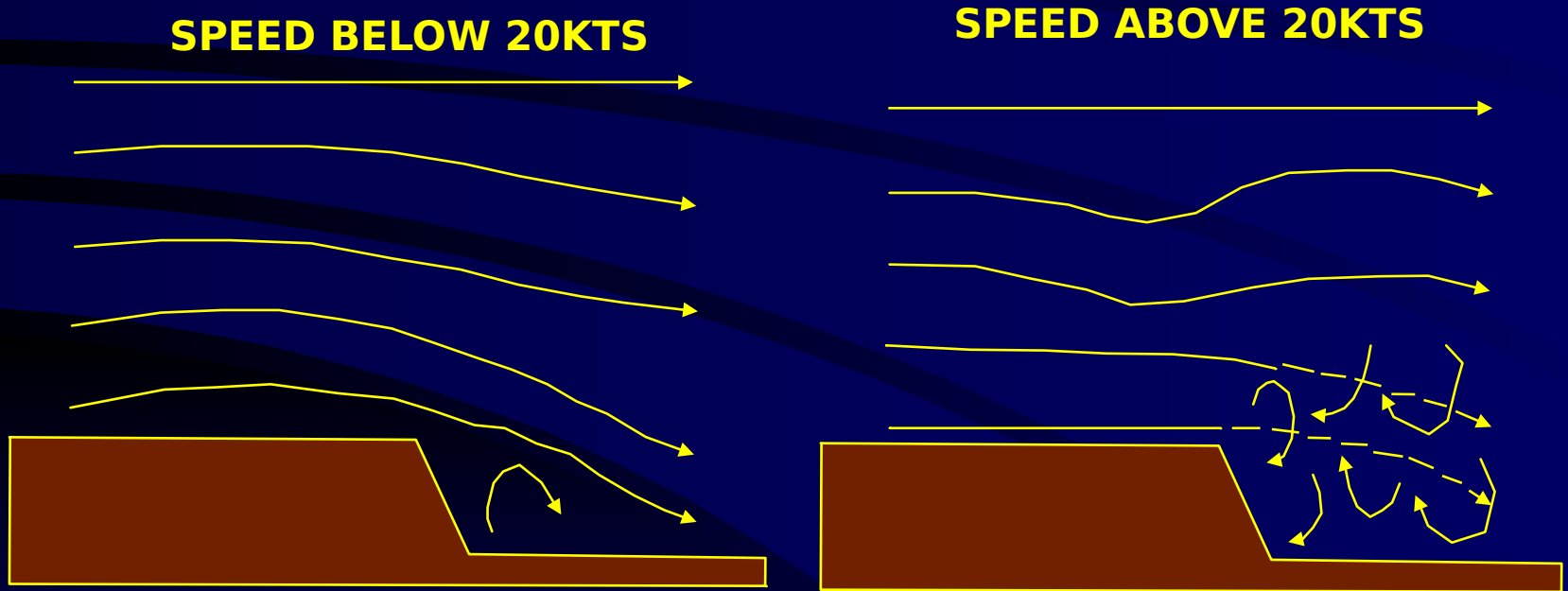
# Seasonal Unique Hazards

## Turbulence (Mechanical)



# Mechanical Turbulence

- Terrain effects on wind flow



# Wake Turbulence

## Dissipation -

Atmospheric turbulence increases the dissipation of wake turbulence while ground effect and surface winds alter the low-level vortex characteristics only slightly. As the vortex sinks into the boundary layer, it begins to move laterally at about 5 knots. A crosswind will decrease the lateral movement of a vortex moving toward the wind and increase the movement of a vortex moving with the wind. This could hold one of the vortices over the runway for an extended period or allow one to drift onto a parallel runway. Vortices persist longer during inversions.

# Seasonal Unique Hazards

## (Turbulence)

- Fixed Wing
  - Directly proportional to speed
  - Inversely proportional to weight
  - Directly proportional to the wing area



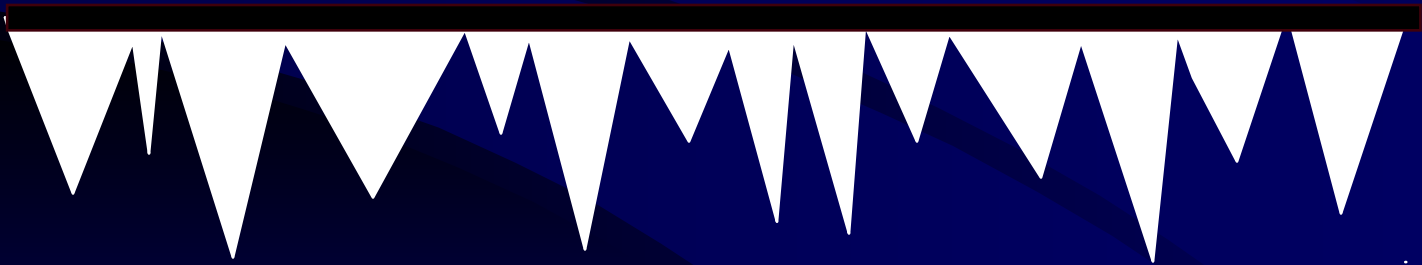
# Seasonal Unique Hazards

## (ICING)

### Icing

General: **Structural** icing interferes with aircraft control by increasing drag and weight while decreasing lift.

**Engine system** icing reduces the effective power of aircraft engines.



# Seasonal Unique Hazards

## (Types)

- Clear Ice -

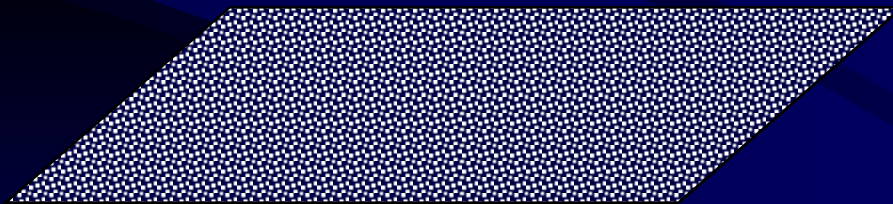
- A glossy, clear or translucent ice with a smooth surface
- Formed by the relatively slow freezing of large supercooled water droplets
- The most serious to aviation operations
  - Runs back along airframe to unprotected surfaces
  - Hard to see by the pilot

# Seasonal Unique Hazards

## (Types)

- Rime Ice -

- A milky, opaque and granular deposit of ice with a rough surface
- Formed by the instantaneous freezing of small supercooled water droplets upon contact

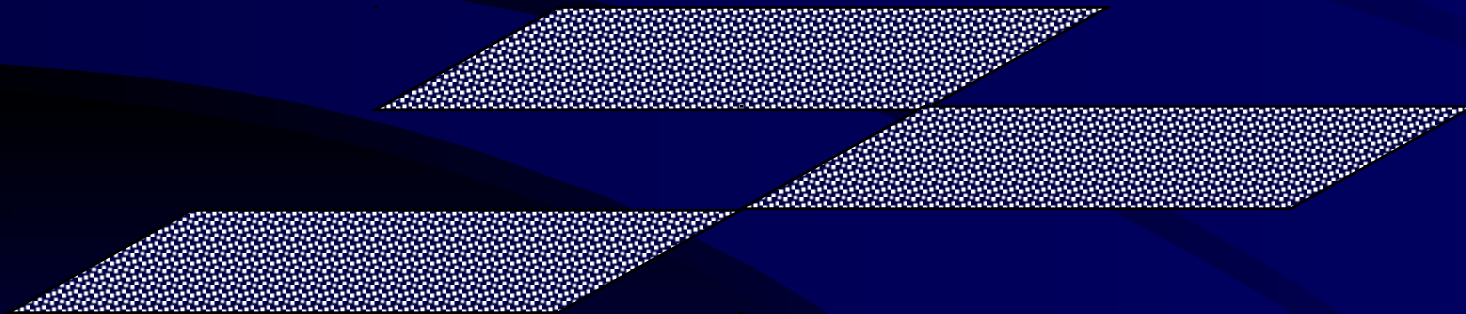




# Seasonal Unique hazards

(Types)

- Mixed Ice - A combination of clear and rime icing



# Seasonal Unique hazards

## (Types)

- Frost Icing -
  - light, feathery deposit of ice crystals that forms when water vapor contacts a subfreezing surface.
  - Frost can occur on an aircraft in flight, on the ground, and on the upper surfaces of parked aircraft during a clear night with subfreezing temperatures.
  - It also affects the aircraft's lift-to-drag ratio and can be hazardous during takeoff.

# Seasonal Unique Hazards

## (Intensities)



- Trace Icing -
  - Ice perceptible
  - Rate of accumulation is slow
  - De-icing/anti-icing equipment is usually not needed
  - Not generally hazardous unless encountered for an extended period (over one hour)

# Seasonal Unique Hazards

## (Intensities)



- Light Icing

- Rate of accumulation may create a problem if over one hour
- Occasional use of de-icing/anti-icing equipment removes/prevents accumulation
- Usually not a problem if de-icing/anti-icing equipment is used

# Seasonal Unique Hazards

## (Intensities)



- Moderate Icing
  - Rate of accumulation such that even short encounters become potentially hazardous
  - Use of de-icing/anti-icing equipment is necessary
  - May have to divert

# Seasonal Unique Hazards

## (Intensities)



- Severe Icing

- Accumulation is such that de-icing/anti-icing fails to reduce or control the hazard
- Immediate diversion is necessary

# Seasonal Unique Hazards

## (ICING)

- Induction Icing -

- Aircraft are frequently subjected to icing of the power plant itself
- Ice develops on air intakes under the same conditions favorable for structural icing.
- Ice formation is most common in the air induction system but may also be found in the fuel system.
- The main effect of induction icing is power loss due to its blocking of the air before it enters the engine.
- **On helicopters, a loss of manifold pressure concurrently with air intake screen icing may force the immediate landing of the aircraft.**

# Seasonal Unique Hazards

## (ICING)

- Air Intake Ducts -
  - In flights through clouds containing supercooled water droplets, air intake duct icing is similar to wing icing. However, the ducts may ice when the skies are clear and the temperatures are above freezing. During taxi, takeoff, and climb, reduced pressure exists in the intake system. This lowers the temperatures to the point that condensation and/or sublimation takes place, resulting in ice formation which decreases the radius of the duct opening and limits the air intake. Ice formed on these surfaces can later break free, causing potential foreign object damage to internal engine components.



# Seasonal Unique Hazards

## (ICING)

- Carburetor Icing -

- Carburetor icing is treacherous, and frequently causes complete engine failure. It may form under conditions in which structural ice could not possibly form. Carburetor icing occurs when moist air, drawn into the carburetor, is cooled to a dew point temperature less than 0C (frost point). Ice in the carburetor may partially or totally block the flow of the air/fuel mixture.

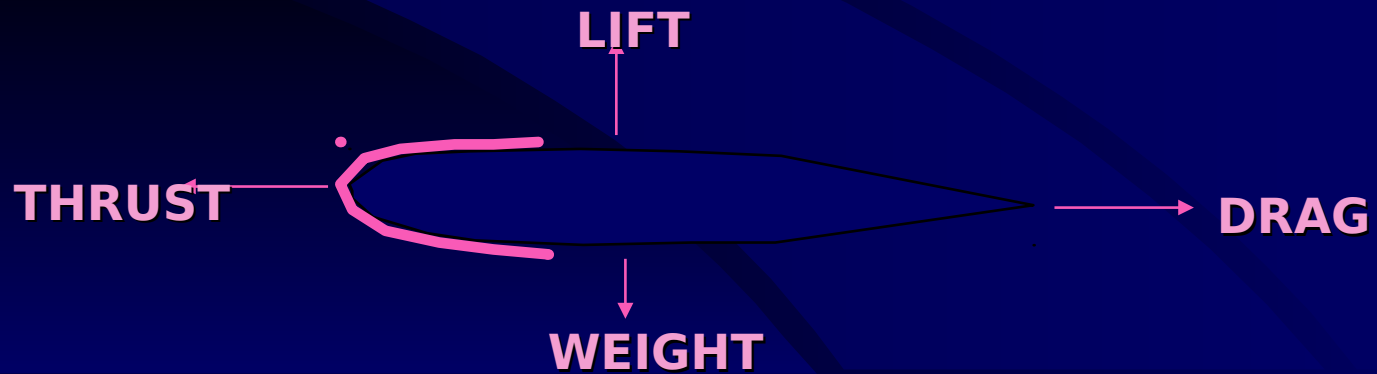
1. When the relative humidity of the outside air being drawn into the carburetor is high, ice can form inside the carburetor (even in cloudless skies) when the temperature is as high as 22C or as low as -10C.

2. The fact that carburetor icing can occur in temperatures well above 0C, may lead the pilot to potentially misdiagnose engine problems.

# Seasonal Unique Hazards

(ICING)

- How Icing Effects Aircraft
  - Increases drag
  - Decreases lift
  - Interferes with control surfaces
  - Increase in weight



# Seasonal Unique Hazards

## (ICING)

- Freezing Precipitation Forecasting
  - Freezing Rain - Severe Clear
  - Light Freezing Drizzle - Moderate Clear
  - Moderate or Heavy Freezing Drizzle - Severe Clear

# Weather Station Info

- Winter Hours:
  - 0530L - 2130L (M-F) CLOSED HOILDAYS
  - \*Standby other times

Alternate briefing services (Scott AFB)

DSN 675-9755,

Fax DSN-4855,

Commercial 618-256-XXXX

# Weather Station Info

- Web services are available for pre-flight planning purposes at: <http://weathers.belvoir.army.mil>
  - Select Aircrew Page
  - Will be prompted for login/password. Contact the weather station if you do not have this information.
- 175-1 briefings can be requested online from the 15<sup>th</sup> OWS through this page during non duty hours.
- The following slides will instruct you on how to fill out these requests.

Sky Condition  
Visibility / Weather  
Min Altimeter  
Winds  
Max Temp

Mission  
Execution  
Forecast

34. VOID TIME 35. EXTENDED  
2

DD Form 175-1, SEP 89

Flight Weather  
Request

>=030 FEET  
>=  
<15 KTS

Planning Matrix

Point Weather  
Warnings



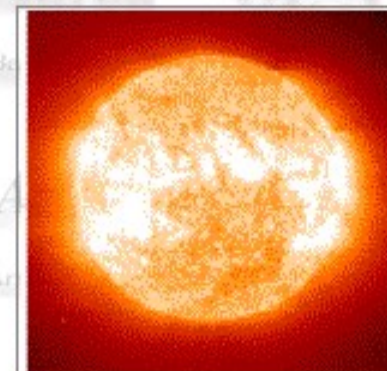
Solar/Lunar



NWS State  
Warnings,  
Watches and  
Forecasts



Airfield Visibility  
Markers



Space Weather

# Select State in left dropdown:



## 15th Operational Weather Squadron

[Aircrew](#)[Meteorologist](#)[Forecast Funnel](#)[Local Weather](#)[Links](#)[Change AOR](#)[Feedback](#)[HOME](#) > [AIRCREW](#) > [SETUP](#)

Northeast Conus

31 Jan

[Home](#)  
[Request Briefing](#)  
[Edit Request](#)  
[Retrieve Briefing](#)  
[Mission Profiles](#)

### Request a Briefing

Use the forms below to either request a briefing by unit or by saved mission profile.

If you have a mission profile but you can not find it under your unit, please try selecting 'Transient/Other' as your unit. If you find your unit under 'Transient/Other', please contact our [Customer Liaison](#).

#### By Unit

Select your state or other:

– Please Select –

New York

North Dakota

Ohio

Pennsylvania

Rhode Island

South Dakota

Transient

Vermont

Virginia

West Virginia

Wisconsin

[Get Unit](#)

#### By Mission Profile

Select your unit:

[Get Profiles](#)

# ext, select your unit:

Home  
Request Briefing  
Edit Request  
Retrieve Briefing  
Mission Profiles

## Request a Briefing

Use the forms below to either request a briefing by unit or by saved mission profile.

If you have a mission profile but you can not find it under your unit, please try selecting 'Transient/Other' as your unit. If you find your profile under 'Transient/Other', please contact our [Customer Liaison](#).

### By Unit

Now select your unit:

12 Aviation

Army Ghost

DC ARNG, DAVISON AA

DET 04 - OSACOM

Ft. Belvoir-RFC (OSACOM)

Nite Vision

### By Mission Profile

Select your unit:

Get Profiles



**Fill out request and include all pertinent information. Be sure to include email address if the brief is to be emailed.**

### Part I - Unit Information

**Ft. Belvoir-RFC (OSACOM): Ft. Belvoir, VA**

Aircrew POC:  \* Phone:   
Fax:  E-Mail:

### Part II - Aircraft Information

Type:  \* Tail Number:   
Call Sign:  Either a Tail # OR call sign is required

### Part III - Mission Information

Departure Day:  \*  Departure Time (Z):  \*  
Departure Point:  \* Flight Level:  \*

Destination Type

ICAO









Arrival Date

Arrival Time (Z)









Primary	ICAO	Arrival Date	Arrival Time (Z)
<input type="text" value="KLFI"/> *	<input type="text" value="KLFI"/> *	<input type="text" value="2/5/2003"/> *	<input type="text" value="11:10"/> *
<input type="text" value="Destination"/>	<input type="text" value="KDA"/>	<input type="text" value="2/5/2003"/>	<input type="text" value="12:00"/>
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<input type="text" value="Alternate"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

# ***Include any special AR, Route, or Drop Zone information:***





## **Part IV - Air Refueling Tracks**

<u>AR Track Name</u>	<u>Start Day</u>	<u>Start Time</u>	<u>End Day</u>	<u>End Time (Z)</u>	<u>Flight Level (MSL)</u>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>





## **Part V - MOA Information**

<u>MOA Name</u>	<u>Start Day</u>	<u>Start Time</u>	<u>End Day</u>	<u>End Time (Z)</u>	<u>Flight Level (MSL)</u>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
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<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>

## **Part VI - Drop Zone Information**

<u>Drop Zone Name</u>	<u>Drop Day</u>	<u>Drop Time (Z)</u>	<u>Altitude</u>
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<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>

## **Part VII - IR & VR Route Information**

<u>Route Name</u>	<u>Start Day</u>	<u>Start Time</u>	<u>End Day</u>	<u>End Time (Z)</u>	<u>Flight Level (MSL)</u>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/> 	<input type="text"/>	<input type="text"/>

***Include any special requests in the remarks block.  
This is where you will place any requests for  
additional transmission, i.e. email and fax, etc.***

***Select brief time and primary delivery method.***

***Lastly, you may elect to save this request as a  
mission profile if it has not already been done and  
if it is a recurring mission.***

Part VII - IR & VR Route Information					
Route Name	Start Day	Start Time	End Day	End Time (Z)	Flight Level (MSL)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Part VIII - Additional Comments/Instructions	
<input type="text" value="Please fax to the primary number but send a courtesy fax to the base weather station 656-7314"/>	

Brief Day:	<input type="text" value="2/5/2003"/>	Brief Time (Z):	<input type="text" value="09:30"/>
Delivery Method: <input type="radio"/> Internet <input type="radio"/> E-Mail <input checked="" type="radio"/> Fax <input type="radio"/> Phone			
Save this request in a Mission Profile? <input checked="" type="radio"/> no <input type="radio"/> yes <input type="text" value="provide a profile name"/>			

# Verify data and select continue

## Unit Info

**Unit:** Ft. Belvoir-RFC (OSACOM) **POC:** LFI AM Shuttle **Phone:** 656-7026  
**Fax:** 656-7572 **E-mail:**

## Aircraft Info

**type:** BE20 **Tail #:** **sign:** Pat401

## Mission Info

**Depart Pt:** KDAA **Flight Level:** 080 **Depart Date:** 2/5/2003 **Depart Time:** 10:30

Type	Icao	Arrival Date	Arrival Time
Primary	KLFI	2/5/2003	11:10
Destination	KDAA	2/5/2003	12:00
Destination	KLFI	2/5/2003	13:20
Destination	KDAA	2/5/2003	14:15

## AR Tracks

Name	Flight Level	Start Day	Start Time	End Day	End Time
No Tracks Entered					

## MOAs

Name	Flight Level	Start Day	Start Time	End Day	End Time
No MOAs Entered					

## Drop Zones

Name	Flight Level	Drop Day	Drop Time
No Drop Zones Entered			

## IR&VR Routes

Name	Flight Level	Start Day	Start Time	End Day	End Time
No Routes Entered					

## Comments

Please fax to the primary number but send a courtesy fax to the base weather station 656-7314

## Other

**Brief Date:** 2/5/2003 **Brief Time:** 09:30 **Delivery Method:** Fax **Profile:** Not Saved as a Profile

Continue

***Print a copy of this page or write down the briefing ID for your records. This is your confirmation you submitted the brief***

[Home](#)  
[Request Briefing](#)  
[Edit Request](#)  
[Retrieve Briefing](#)  
[Mission Profiles](#)

## Request Submitted

---

Your briefing request has been submitted. Please note your briefing id.

**Briefing Id:** 31010316421800

**Call Sign:** Pat401

**POC:** LFI AM Shuttle

**Brief Time:** 2/5/2003 09:30Z

***If necessary you may go back and edit your request for any changes that may occur. Select Edit Request and input your Briefing ID. Follow the above steps and edit those areas that need changed and submit again.***

Home  
Request Briefing  
Edit Request  
Retrieve Briefing  
Mission Profiles

## Edit Briefing Request

---

To edit a briefing request, please enter the briefing id you were given when you submitted your request.

If your briefing is not found, please make sure the id entered is correct. If the id entered is correct, your briefing may already be in progress and can no longer be modified from the web. Please contact our briefer at DSN: 576-9701/9755 or COM: (618)256-9701/9755 for assistance.

Enter Briefing ID:

Edit Request

***Lastly, in the event your briefing does not arrive through requested means, you may retrieve the briefing by selecting Retrieve Briefing and input your Brief ID.***

***In the event you have any problems you may contact the briefer directly by calling the listed number below.***

Home  
Request Briefing  
Edit Request  
Retrieve Briefing  
Mission Profiles

## Retrieve Briefing

To retrieve a published briefing, please enter the briefing id you were given when you submitted your request.

- If your briefing is not found, please make sure the id entered is correct. If your id is correct and your briefing is still not found, it may not yet be published. Please contact our briefer at DSN: 576-9701/9755 or COM: (618)256-9701/9755 for assistance.
- 

Enter Briefing ID:

Retrieve

# Space Weather Info

In addition to terrestrial weather, space weather plays a key role in the warfighters' ability to plan and conduct operations. Unlike terrestrial weather requirements, the operational needs of the warfighter (as they pertain to space weather) are not well documented, and may not be as well understood. To that end, the Air Force Weather Agency has taken many steps to provide products and training to better understand space weather and its potential effects on operations. Everything from GPS readings to HF communications and SATCOM may be effected during high solar activity.

This will be a quick overview of the products OL-A, 18<sup>th</sup> WS, will provide on a routine basis. This overview will also include URL links to more in depth training material and available products currently in use to support the warfighters. Specialized space weather support can be provided on request.



# Space Weather is now provided on the new DII Blocks 15 and 16.

PART II - ENROUTE & MISSION DATA												
14. FLT LEVEL/WINDS/TEMP		<input type="checkbox"/> SEE ATTACHED		15. SPACE WEATHER			16. SOLAR/ LUNAR		LOCATION			
					NO IMPACT	MARGINAL	SEVERE	BMNT	Z			
				FREQ				SR	Z		MR	Z
				GPS				SS	Z		MS	Z
				RAD				EENT	Z		ILLUM	%
17. CLOUDS AT FLT LEVEL				18. OBSCURATIONS AT FLT LEVEL RESTRICTING VISIBILITY								
<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	IN AND OUT	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	TYPE		

# Space Weather is also provided on the Mission Forecast (MEF) in the Solar and Lunar Data b

Solar and Lunar Data				
SR: 03/0713L	SS: 03/1732L	MR: 03/0848L	MS: 03/1951L	3%
Space Wx Impact	Low=L Moderate=M Severe=S		Freqs: L	GPS: L
Flight Weather Debrief				
16. Space Weather Debrief				

# Space Weather Info

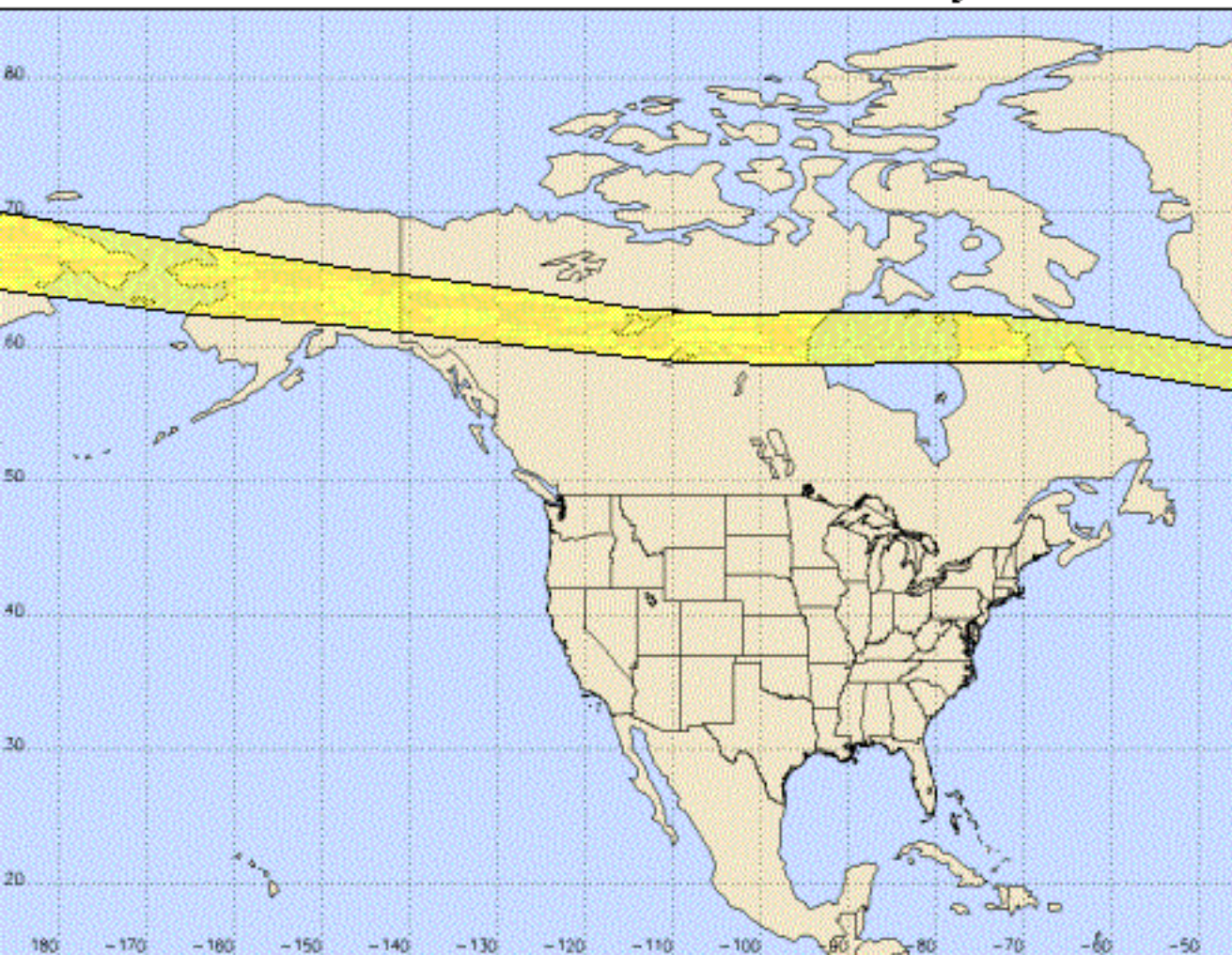
**At this time we currently provide space weather information on the effects of solar activity on SATCOM (GPS, etc.) and HF Communications (frequency). The data used for these new blocks comes from products provided by the Space Weather Prediction Center. These products may be obtained from AFWA's web site, or by clicking on the MEF link on our Aircrew Page and selecting Daily Space Weather Impact Graphics.**

**The following 3 slides will show you examples of the products provided by the Space Weather Prediction Center. For detailed information on these products and additional information on Space Weather training please download and read the Space Weather primer, which describes these products in detail, located at**

**<http://weathers.belvoir.army.mil/aircrew/Primer.doc>**

# Ionospheric Conditions Impacting High Frequency (HF) Communications and Other HF Operations

***Forecast Valid: 03/1200Z - 03/1800Z February 03***



These regions represent  
conditions that can cause  
marginal HF operations

These regions represent  
disturbed conditions that can  
severely degrade HF  
operations

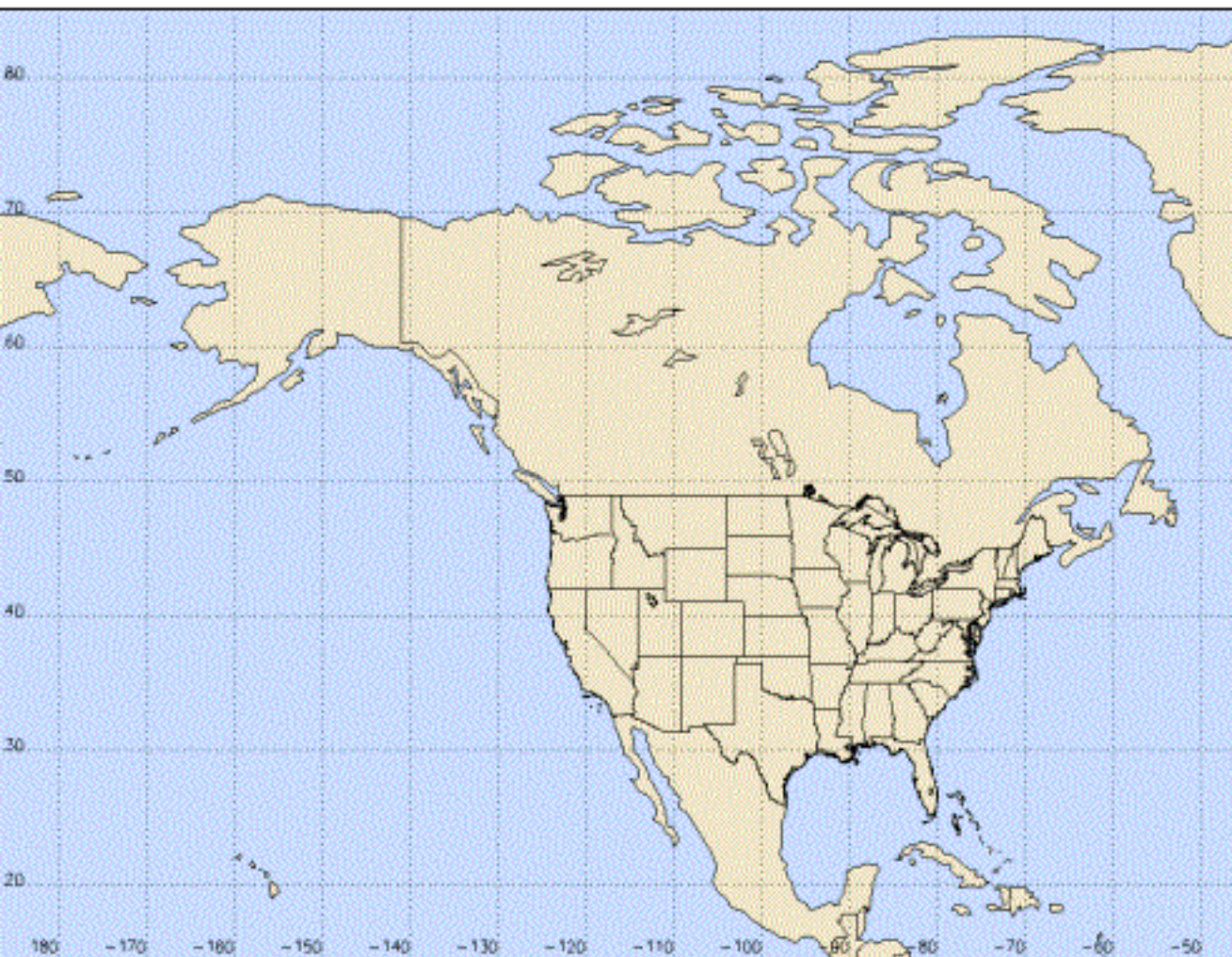
Press the HF Communications  
"Help" key on the JAAWIN Space  
Weather menu for assistance.

For additional  
information/feedback please  
call AFWA/XOGX at  
Comm. (402) 232-8087  
DSN 272-8087

**Additional Comments:**

## Ionospheric Conditions Impacting UHF SATCOM Operations

***Forecast Valid: 03/1200Z - 03/1800Z February 03***



These regions represent conditions that can cause marginal UHF operations

These regions represent disturbed conditions that can severely degrade UHF operations

Press the UHF Communications "Help" key on the JAAWIN Space Weather menu for assistance.

For additional information/feedback please call AFWA/XOGX at Comm. (402) 232-8087 DSN 272-8087

**Additional Comments: No significant space weather disturbances expected to affect UHF or satellite communications.**



# Space Environment Global Situational Awareness

Valid: 03/1200Z Feb 03

## Observed Space Environmental EVENTS

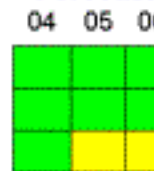


## Today



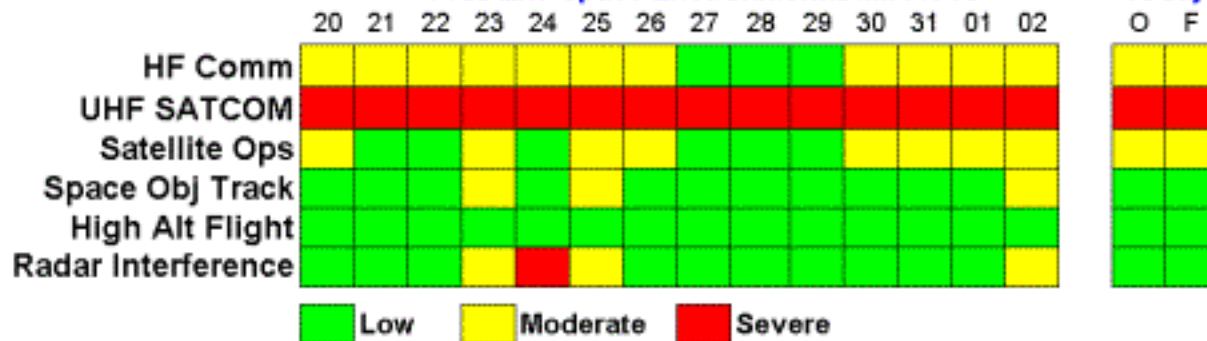
## 3 - Day

### Forecast



See Discussion  
and Events Slide  
for Details

## Probable Space Environmental IMPACTS



## Today



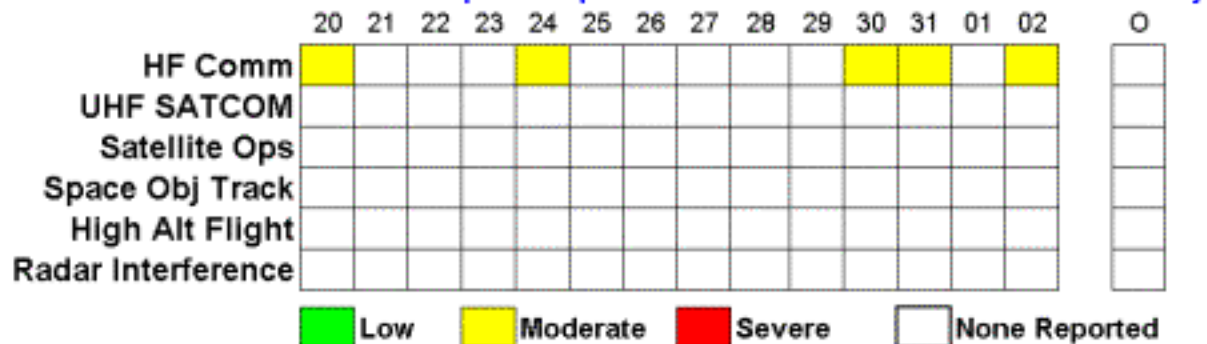
## 3 - Day

### Forecast



See Discussion and  
Impacts Slide for Details  
Check regional products  
for specific details in your  
AOR

## Reported Space Environmental IMPACTS

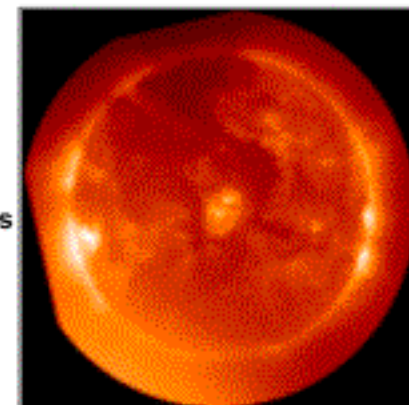


## Today



See Impacts  
Slide for Details

Image Valid 03/1135Z



Crane/Lankford  
Issued 03/1200Z

# Space Weather Info

## Additional Space Weather Links

### **Space Weather Training and Requirements Module**

(used for additional training and to help you determine if you have space weather requirements. This is where it all starts)

<https://midway.peterson.af.mil/weather/module.html>

### **Air Force Weather Agency Training Division**

(This site covers all Air Force Weather training, but includes a good section on space weather.)

[https://wwwmil.offutt.af.mil/afwadnt/Training\\_Products/Space%20Weather/space\\_weather.htm](https://wwwmil.offutt.af.mil/afwadnt/Training_Products/Space%20Weather/space_weather.htm)

### **Joint Air Force & Army Weather Information Network**

(Main AFWA Space Weather page. Provides products, familiarization/training material, and links to other pertinent space weather sites.)

<https://www.afwin.afwa.af.mil/space.html>

# What can you do to help us?



*Please use the links below to fill out the completion form either online or by printing a blank copy and faxing. Please follow instructions outlined on the forms. If the blank form will not open in your browser, you may obtain a copy by contacting the Base*